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WHAT IS CLAIMED IS:

1. A filter (10) for processing a biological fluid comprising:

at least two filter elements (1, 2), wherein the surface of one filter element (1) has a nitrogen-to-oxygen ratio in the range of from at least 0.01 to less than about 1.00, and the surface of the other filter element (2) is hydroxylated relative to the bulk of the element.

2. The filter of claim 1, further comprising at least one additional filter element (1), wherein the surface of the additional element has a nitrogen-to-oxygen ratio in the range of from at least 0.01 to less than about 1.00.

3. The filter of claim 1, further comprising at least one additional filter element (2), wherein the surface of the additional element is hydroxylated relative to the bulk of the element.

4. The filter of claim 1, further comprising at least two additional filter elements (1, 2), wherein the surface of the first additional element (1) has a nitrogen-to-oxygen ratio in the range of from at least 0.01 to less than about 1.00, and the surface of the second additional element (2) is hydroxylated relative to the bulk of the element.

5. The filter of claim 2, wherein the element (2) having the hydroxylated surface is interposed between the two elements (1, 1) having surfaces including the nitrogen-to-oxygen ratio in the range of from at least 0.01 to less than about 1.00.

6. The filter of claim 3, wherein the element (1) having a surface including the nitrogen-to-oxygen ratio in the range of from at least 0.01 to less than about 1.00 is interposed between the two elements (2, 2) having hydroxylated surfaces.

7. The filter of claim 1, wherein at least a portion of the surface of the element (2) hydroxylated relative to the bulk of the element is aminated relative to the bulk of the element.

8. The filter of claim 1, wherein another portion of the surface of the element (2)

hydroxylated relative to the bulk of the element is aminated relative to the bulk of the element.

9. The filter of claim 1, wherein the surface of the filter element (1) has a nitrogen-to-oxygen ratio in the range from at least about 0.2 to less than about 1.00.

10. The filter of claim 1, wherein the filter element (2) with the hydroxylated surface includes at least one carboxyl group.

11. The filter of claim 1, wherein the filter elements (1, 2) have a negative zeta potential at physiological pH.

12. The filter of any one of claims 1 and 7-11, wherein the filter element (1) having the surface including the nitrogen-to-oxygen ratio comprises a porous fibrous leukocyte depletion medium having a first predetermined critical wetting surface tension (CWST); and the filter element (2) having a hydroxylated surface comprises a porous fibrous leukocyte depletion medium having a second predetermined CWST.

13. The filter of claim 12, wherein the two filter elements have different critical wetting surface tensions (CWSTs).

14. The filter of any one of claims 1-13, wherein at least one filter element comprises at least two layers.

15. The filter of any one of claims 1-14, wherein at least one filter element has a CWST of at least about 90 dynes/cm.

16. A filter device (100) for processing a biological fluid comprising:

a housing (25) having an inlet (20) and an outlet (30) and defining a fluid flow path between the inlet and the outlet; and

the filter of any one of claims 1-15 disposed in the housing across the fluid flow

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path.

17. The filter device of claim 16, wherein the filter is arranged to allow plasma to pass therethrough and substantially prevent the passage of leukocytes and platelets therethrough.

18. The filter device of claim 16, wherein the filter is arranged to allow plasma to pass therethrough and substantially prevent the passage of leukocytes therethrough, without substantially activating C3a in the biological fluid.

19. The filter device of claim 16, wherein the filter is arranged to allow plasma to pass therethrough and substantially prevent the passage of platelets, leukocytes, and C3a therethrough.

20. The filter device of any one of claims 16-19, wherein the filter is arranged to provide leukocyte-depleted plasma having about 1×10^3 leukocytes or less therein.

21. The filter device of any one of claims 16-20, wherein the filter is arranged to provide platelet-depleted plasma having about 1×10^9 platelets or less therein.

22. The filter device of any one of claims 16-21, wherein the filter substantially removes C3a from the biological fluid passing therethrough.

23. The filter device of any one of claims 16-22, wherein C3a is not substantially activated by the filter as the biological fluid passes through the filter.

24. A method for processing a biological fluid comprising:

passing a biological fluid through the filter device of any one of claims 16-23; and

obtaining the filtered fluid.

25. A method for processing a biological fluid comprising:

passing a leukocyte-containing plasma-rich fluid through a filter (10) comprising at

least two filter elements (1, 2), wherein the surface of one filter element (1) has a nitrogen-to-oxygen ratio in the range of from at least 0.01 to less than about 1.00, and the surface of the other filter element (2) is hydroxylated relative to the bulk of the element; and

obtaining a filtered plasma-rich biological fluid substantially free of leukocytes and platelets.

26. The method for processing a biological fluid according to claim 25, wherein passing the leukocyte-containing plasma-rich biological fluid through the filter comprising passing the fluid through at least one additional filter element (2), wherein at least a portion of the surface of the element is aminated relative to the bulk of the element, and another portion of the surface of the element is hydroxylated relative to the bulk of the element.

27. The method for processing biological fluid according to claim 25, wherein passing the leukocyte-containing plasma-rich fluid through the filter comprises passing the fluid through at least two additional filter elements (1, 2), the surface of one additional element (1) having a nitrogen-to-oxygen ratio in the range of from at least 0.01 to less than about 1.00, and the surface of the other additional element (2) being hydroxylated relative to the bulk of the element.

28. The method of any one of claims 25-27 wherein the filtered plasma-rich fluid is substantially free of C3a.

29. The method of any one of claims 25-28 wherein the leukocyte-containing plasma-rich biological fluid comprises a platelet-poor biological fluid.

30. The method of any one of claims 25-29, including collecting plasma-rich fluid in a downstream container without substantially activating C3a in the plasma-rich fluid.

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